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THE GRAPE-SUGAR SENSATION.

Elsewhere in the NEWS will be found a thoroughly sensible article on glucose, from the pen of Prof. Henry Morton, Ph. D., in the December number of the Plumber and Sanitary Engineer. It is an able scientific exposure of a newspaper sensation that has of late caused no little uneasiness and even alarm in the public mind. Doubtless there is much adulteration practiced in the manufacture of sugars and candies, and certainly the people should be protected against fraud, and secured in their right to receive what they pay for. When one gives the price of cane sugar he should not be swindled by having grape sugar furnished him. The latter is much less sweet than the former, and several cents a pound less costly to the manufacturer. But this phase of the glucose question belongs to our brethren of the pulpit and of the law, the guardians of our souls and our purses, and not to us of medicine, whose care is the temporal health of mankind. It is for the clergy to tell the manufacturers of the sinfulness of adulteration, and to warn them of the punishment that awaits them in the world to come. It is for the law-makers to protect the pecuniary interests of the people, and to provide for the punishment of the malefactors. Our duty is to point out the dangers of daily life as they exist in the food and drink and air and clothing and habits of the folk.

As to this glucose, of which we now hear so much, it is simply grape sugar manufactured from corn starch. It is found in all fruits, and is both toothsome and healthsome; albeit not so saccharine as cane sugar or beet sugar, and therefore not so useful in confectionery and cooking and for table-drinks. But so far from being injurious to health, glucose is the form into which all sweets are converted in the process of digestion before they can be taken up and employed by the system in the support of life. Such is the dictum of the chemists and physiologists. It is estimated that forty pounds of sugar is the average annual amount consumed by each inhabitant of the United States. If the individual pays for cane sugar and gets glucose, he is defrauded out of eighty cents to a dollar every year; but the pecuniary injury is all. The English are said to use sixty pounds per capita annually. According to Dr. Shrady, there are often two or three drachms of sulphuric acid contained in the gallon of glucose. Suppose this is the case — say three teaspoonfuls of acid to the gallon of syrup— and suppose a man uses an eighth of a pint of this syrup at breakfast, dinner, and supper—and the estimate certainly is liberal— he would not get enough acid to hurt him in the least. Nor is it at all likely that the tiny modicum of tin said to be found in this artificial glucose is in the least harmful.

The common impression seems to be that the refiners and confectioners are the chief if not the sole users of glucose in the adulteration of cane sugar. We learn that in a neighboring state "across the line" an immense glucose manufactory is in operation, and that the greater part of its product

shipped directly south, where it is mixed with the products of the cane by the sugar-makers on the plantations. If this is really so, it is a new way of "shaking hands across the bloody chasm."

TRUE AND WISE HONESTY.—In some lectures recently delivered before the Royal College of Physicians and Surgeons, London, Spencer Wells records some mistakes and mishaps which he has experienced in his ovarian operations. Fibrous tumors and fibro-cystic tumors of the uterus, the spleen, and other things have been cut down on for ovarian tumors. A number of operations have been incomplete. Once a sponge was forgotten in a woman's abdomen. The next morning the patient became restless and feverish. Under pretense of altering the dressings, the wound was opened and the sponge found immediately under the wound, having been moved there by the action of the intestines. At another time, just at the close of an operation, a sponge was missing, and after great research was found between the liver and diaphragm. Once a pair of forceps was left folded up in the omentum. The wound was opened and the forceps removed. The patients all did well.

Original.

A FEW THOUGHTS ON THE YELLOW-FEVER QUESTION.

Part II.

BY WM. H. GALT, M. D.

I have spoken of the doctrine of contagion as advanced by the late commission, which met at Richmond, as being incomprehensible, and in this communcation desire to say a few words on that doctrine. The report of the committee gives the names of two men, the streets where they resided, the sloop from which they were carried when stricken with the fever, as the first victims of the pestilence, with a particularity which would induce one to believe that a most circumstantial evidence of their connection with the introduction of the disease in New Orleans would follow. Instead of this, it is acknowledged that, either from want of time, or from some equally good reason, *they failed to establish the slightest connection of these cases with those which followed in the city.* In spite of this failure — and, as far as I have seen, they had no other evidence before them — they lay down as an axiom, "that the yellow fever of 1878 was a specific disease not indigenous to the United States, and its appearance in this country during that year was due to specific causes." Dr. L. P. Yandell was informed, as he states in his article on Yellow Fever in Louisville, published in the LOUISVILLE MEDICAL NEWS of a recent date, upon what he considered reliable authority, that two little boys, who died here with yellow fever, played about a place where baggage from Memphis was stored; one certainly, the other probably, having put on some cast-away clothes from the baggage of refugees from the South. He also accepts this as an evidence of the contagiousness of yellow fever.* I would most solemnly ask if evidence so slight as this can carry any weight with it? Would it be sufficient to convict any one, however notoriously criminal otherwise, before a petit jury? On the other hand, it is the fact that in the hospitals, hotels, and private houses here, where the patients with their clothing, baggage, and all the materials for carrying contagion were placed, there did not occur one case of the fever. An old patient of mine is stationed as switchman at the depot of the Nashville road here. In his language his "back rubbed against the baggage of the Memphis refugees all day long." In spite of this dangerous proximity he did not take the fever. What kind of contagion is this which does not infect those who are directly in contact with it, but does infect those whose contact can not be established, except by

*Dr. Galt is totally mistaken. I have never so stated, nor have I ever believed in the contagiousness of yellow fever.—L. P. Y.

evidence which is evidence only to those who are credulous by nature, or by preconceived opinion?

Knowing the character of the men who were on the committee, I must think that there was before them better evidence than they have furnished. It was due to themselves, to the most momentous question which has been brought before the profession, and most certainly due to the nation, that an expression of opinion so positive and authoritative should have been so well considered and presented that no one could gainsay it. Its opinion is regarded every where as *ex cathedra*, and if, under the circumstances, from want of time or wantof information, it could not consider the subject in all its relations, it should have adjourned, after having appointed committees having power to make searching inquiry into all doubtful or controverted points. The doctrine of contagion may be true, but if true, it entails a duty so cruel in its workings, and so disastrous to the business interests of the country, that its truth must be established beyond peradventure. It must be indorsed by all. There is nothing more to be dreaded than a general quarantine. A foreign quarantine could bring nothing but some commercial inconvenience; but when one town quarantines another, and the exaggerated idea of contagiousness prevails, as it did last summer, then there are no words to picture the horrors which follow. We all remember how poor stricken wretches were left to die uncared for; how those fleeing from the pestilence were met with loaded shot-guns and driven back into the infected district, many poor creatures perishing by the road-side of starvation and exposure. This fear of contagion seems to transform men into savages, in whose breasts no human affection or Christian pity has a place. Parents desert their children; children their parents; husbands their wives; wives their husbands; and all are frantic and demoralized. Methinks a doctrine which entails a legacy like this should indeed be well considered before it is promulgated.

If, however, it is demonstrated that quarantine will protect us, it should be established and faithfully and rigorously enforced.

Much has been written on the cause of yellow fever. Men write about "fomites," "germs," etc. with as much familiarity as if these things were appreciable causes of the disease. When a cause of disease is so minute that we can't see it with a microscope, and when no chemical analysis can demonstrate it, then does the imagination of the enthusiastic inquirer have full play. It gives this imaginary dweller in the human body a name, and then describes its habits and ways. This reminds me of Dickens's Silas Wegg, whose imagination filled a vacant house, near his stall in the street, with inhabitants. He called them by different names. One was "Uncle Penker," another "Aunt Jain," and so on through a large family. He pictured their different characters and appearances in his mind's eye, until they were real to him. And thus it is with the enthusiastic medical philosopher, who revels in the company of these dear creatures of his imagination.

Finally, I would ask the good men who composed the committee at Richmond, and all who were engaged in treating the yellow fever, to give the medical journals all of their experience and their ideas on the subject. The lesson to be learned from this last invasion of yellow fever is too great and important to be settled hastily; but whatever it may teach, let it be brought before us so clearly and so wisely that none can controvert it.

LOUISVILLE.

Miscellany.

ERRATA.—In the editorial of last week's NEWS read "*magnum donum Dei*" instead of "*magnum bonum Dei;*" also on page 300, in note on moist mercurial vapor baths, read "epidermic medication" instead of "iatroliptic medication." On page 301, in note on tannic acid, read "diarrhea arrested" instead of "averted diarrhea."

CHARCOAL FOR BURNS.—A venerable patient, a retired foundryman, tells us that during his apprenticehood to a ship-builder of Philadelphia he became acquainted with a never-failing remedy for burns and scalds, and that in his subsequent foundry-life he saw innumerable such injuries relieved of pain, and healed as if by magic, by powdered charcoal. The softer it is the better, and that from pine wood is the best. It is to be thickly sprinkled over the burnt or scalded surface as soon as possible, and renewed as it becomes moist or drops off.

A REMEDY FOR CUTS.—The same patient states that in the shipyard and in his foundry fir balsam proved a most soothing and rapidly curative dressing for abrasions and cuts. The hurts heal with marvelous expedition, and suppuration, erysipelas, etc., are always prevented, he says. The balsam should be spread thickly over the wound.

No doubt the disciples of antiseptic surgery would attribute the good results of this dressing to the disinfectant power of the balsam, but the secret of its efficacy lies no doubt in its exclusion of the atmosphere from the wound. Nature endeavors to keep out the air from wounds by means of a film of lymph, or pus, or a scab, and meddlesome man thwarts nature by frequent "cleansing" the hurt by water, or, worse still, soap and water. The balsam protects the sore from air and water, and nature unobstructed does her healing work rapidly and well.

THE ALLEGED ADULTERATION OF SUGAR. Prof. Henry Morton, Ph. D., in the Plumber and Sanitary Engineer:

My attention has recently been directed to a series of anonymous articles appearing from time to time in various daily papers, which, while differing in many respects, have certain marked characteristics in common:

1. A display of remarkable ignorance in reference to the elementary facts of the subject discussed.

2. A wholesale and general denunciation of all who have successfully carried on an industry of national importance; *i. e.* sugar-refining.

3. A careful avoidance of any thing like a specific charge which could be followed up and proved or disproved.

4. An evident attempt to mislead the general public, and to create a prejudice against sugar-refiners as a class, by statements many of which are absurdly false, as matters of general scientific knowledge; others of which are known to me personally to be false as matters of fact, and others of which are asserted without one iota of evidence which could alone give them any legitimate weight.

While no one could feel more interest than I do in the suppression of fraud and adulteration in the refining of sugars or in any other business, I am for that very reason extremely disgusted at seeing the cause of true reform disgraced and hindered by such proceedings as these, which can by no possibility lead to any good end when so conducted, but simply throw discredit on the honest and judicious efforts which are being made by men of position and character in the same direction.

With this view of the subject I consider it my duty to expose the false statements and suggestions in reference to scientific facts which I find in these articles, and thus do what I can toward the prevention of an unfounded public opinion which, if once established, may be very mischievously utilized by designing men in various ways.

In the first place, then, I find repeated statements or suggestions that glucose is a very unwholesome substance, and has no business to be found in sugar unless it has been artificially prepared from starch, corn, or the like, and added to the sugar by the refiner. To make clear what are the facts in this connection, I will explain briefly what glucose is, and what are its sources.

At the outset I should say that glucose can exist in two states, differing from each other in sweetness and in the power of rotating the plane of a ray of polarized light. That rotating the plane in the direction in which the clock-hands move is called dextro-glu-

cose, or dextrose; that rotating the other way, lœvo-glucose, or lœvulose.

Now it is believed that all sugar in the sugar-cane is first formed as glucose, probably as a mixture of both kinds, and changes into sugar as the cane ripens. All cane juice at all events contains some of it; and if the juice is allowed to stand untreated, the sugar rapidly reverts to the condition of glucose; and with all the care and all the appliances which modern science and art place at our disposal, a considerable conversion of sugar into glucose is sure to occur during manufacture.

When this conversion of sugar into glucose—or, as it is technically called, "inversion" of sugar—occurs naturally, as above, the products consist of dextrose and lœvulose in such proportions that its influence on polarized light is nothing, or the two opposite rotations neutralize each other; but if this inversion is effected, as it may easily be in a very short time by boiling a sugar solution with a minute quantity of hydrochloric or other strong acid, then the lœvulose so far predominates in its optical effect as to give a resulting left-hand rotation equal to about one third of the right-hand rotation due to the pure sugar originally. Of the two kinds of glucose, the lœvulose is sweeter, and does not crystallize; the dextrose is less sweet, but may be crystallized with difficulty. Hence, as this inverted sugar would render the sugar moist if left in, it must be removed from hard sugars; and it will moreover dissolve the coloring-matters, and thus acquire a dark color.

In older processes of sugar-making or refining, a light color was chiefly obtained by crystallizing, and draining or washing away the coloring-matters and glucose together; hence a light-colored sugar was of necessity free from glucose. Recently, however, what is known as the "Scotch" method has been largely adopted. In this method, by a free use of bone-black, the coloring-matter has been largely removed from the glucose, and then the crystallization and drying so conducted as to leave this in the sugar.

By this means a product is obtained of a light color, and yet containing all the glucose that in former times would have been found in a darker sugar. As this sugar is sold at a much lower price than it would cost to make the old sort, it seems to me that the thanks of the consumer are due to the manufacturer for what he has done in this direction, unless it can be shown in some way this glucose is injurious.

Let us see, then, what are the facts upon which an opinion can be based in this respect:

1. Glucose, *i. e.* a mixture of dextrose and lœvulose, constitutes the sugar of all sorts of fruits.

2. The first step in the digestion of sugar is its conversion into glucose in the stomach. If therefore glucose will hurt us, we must never eat any sugar.

3. Starch is converted into glucose with great rapidity by the action of the saliva. If we chew a little bread for a minute, spit it out, and test it for glucose, we will find this body present in an appreciable quantity even in this short time. In fact, the first step in the digestion of starch, as well as of sugar, is its conversion into glucose. Starch being our principal vegetable food, it is therefore evident that we must give up all vegetable diet to escape from this glucose, if it is injurious.

These facts above stated will be found in every work upon physiology, but for ready reference we would refer here to Johnson's Encyclopedia, 1878, article "Digestion," by Dr. C. W. Greene, and to Foster's Physiology, Macmillan & Co., 1878, page 188.

Having thus disposed of the nonsense which has been written about the injurious or non-nutritious properties of glucose, I will next turn to the question of muriatic acid.

Muriatic acid, if present in sugar, will rapidly modify it, turning it into glucose and impairing its color; so that any manufacturer who puts it in would very soon find out his mistake by having his sugar returned to him, and he would either reform his meth-

ods or be driven out of business in short order. But in the meantime would the community be poisoned, or have "holes eaten in their stomachs like copper boilers?"

If there was acid enough in the sugar to set one's "teeth on edge," any one who was foolish enough to eat such stuff would of course injure his teeth, and might not find the sugar agree with him any more than too much vinegar or too many pickles. But he would not be poisoned. Muriatic acid is in no proper sense a poison any more than is vinegar or acetic acid. Strong acetic acid, if swallowed in quantity, would be fatal; but if diluted, as it is in vinegar, it is harmless. Just the same is true of muriatic acid. The best proof of this is that muriatic acid constitutes an essential part of the gastric juice.

Now be it understood that I would not for a moment defend the use of muriatic acid in sugars. It would be bad policy on the part of manufacturers, and would be making an article liable to deteriorate. But while this is so, I would also deprecate the ignorant and malicious attempt to frighten the public at large with the false assertion that they may be poisoned before they know it by muriatic acid in their sugar. This is at best a foolish bugbear, and, if asserted by any one who has any pretentions to scientific knowledge, is very disgraceful. By all means expose the names of those manufacturers who put muriatic acid in their sugars, if there are any who so do; but leave out the nonsense about eating holes in stomachs like copper boilers.

As regards chloride or muriate of tin, this also should not be tolerated in sugars in any appreciable amount; and as it might by accident, if used at all, be sometimes left in dangerous quantities, it would be best to forbid its use, as the use of lead for a like reason has been forbidden in France. But here also no needless fright should be stimulated. If a sample of sugar contains so little tin that a chemist can only find a trace, and can not get a weighable quantity from ten pounds of sugar, no one need fear lest he should acquire "a tin lining to his stomach" by eating such sugar.

If sugars are found containing dangerous amounts of tin, let their manufacturers be exposed by all means. Many years ago an enterprising firm went into the manufacture of water-pipe lined with tin, and secured the services of a chemist, not unknown to a certain sort of fame, to persuade the public that they were being poisoned by the lead pipe then in use. From what was then said and written a credulous person would have been convinced that the entire population of New York had been poisoned long ago, and ought to have taken up its abode in Greenwood years before. Lead pipes, however, are still used, and New York still seems fairly populous.

The poisonous properties of tin were not then ventilated, but its turn has come now, and we should not be surprised to see the tin pan and tin pail and tin dipper and tinman held up by the horrified reporters to the indignation of a deluded public as soon as this sugar business has been exhausted of its popular interest.

HORRIBLE!—Dr. Leidy, of Philadelphia, has announced the discovery that cucumbers are liable to be infested with tape-worm. At a meeting of the Academy of Sciences, Philadelphia he exhibited a specimen of tape-worm taken from the inside of a large cucumber. It is said to have had all the characteristics of a true tape-worm, but belonged to an unknown species, the peculiarity being that the ovaries containing the round yellow eggs are confined to the anterior extremity of the segment.

COMMERCIAL subnitrate of bismuth almost always contains lead. The quantity varies from a mere trace to a dangerous proportion.—*Phila. Drug. and Chem.*

"GIVE me the names of the bones of the cranium." "I've got 'em all in my head, professor, but I can't give them."—*Michigan Med. News.*

EFFECT OF BEER-DRINKING ON HEALTH AND CHARACTER.—The fashion of the present day in the United States sets strongly toward the substitution of beer for other stimulating liquors. An idea appears to be gaining ground that it is not only nutritious, but conducive to health; and further, that there does not attach to it that danger of creating intemperate habits which attends the use of other drinks. The subject is one of great magnitude, and deserves the attention of medical men as well as that of moralists. Many years ago, and long before the moral sense of society was awakened to the enormous evils of intemperance, Sir Astley Cooper, an undisputed authority in his day, denounced habitual beer-drinking as noxious to health. Referring to his experience in Guy's Hospital, he declared that the beer-drinkers from the London breweries, though presenting the appearance of most rugged health, were the most incapable of all classes to resist disease; that trifling injuries among them were liable to lead to the most serious consequences, and that so prone were they to succumb to disease, that they would sometimes die from gangrene in wounds as trifling as the scratch of a pin.

We apprehend that no great change either in beer or in men has taken place since the days of the great surgeon. It may also be said of beer-drinking that there is less limitation to it than to the habitual use of other drinks. It does not produce speedy intoxication. When the drinker becomes accustomed to it, it will scarcely produce active intoxication in any quantity. It makes him heavy, sleepy, and stupid. Even in moderate quantities its tendency is to dullness and sluggishness of body and mind. Beer-drinkers are constant drinkers. Their capacity becomes unlimited. The swilling of the drink becomes a regular business. It has no arrest or suspension, like whisky-drinking, to admit of recuperation. The old definition of a regular beer-drinker was true: "Every morning an empty barrel, every night a barrel of beer." Of all intoxicating drinks it is the most animalizing. It dulls the intellectual and moral, and feeds the sensual and beastly nature. Beyond all other drinks it qualifies for deliberate and unprovoked crime. In this respect it is much worse than distilled liquors. A whisky-drinker will commit murder only under the direct excitement of liquor; a beer-drinker is capable of doing it in cold blood. Long observation has assured us that a large proportion of murders deliberately planned and executed without passion or malice, with no other motive than the acquisition of property or money, often of trifling value, are perpetrated by beer-drinkers.

We believe moreover that the hereditary evils of beer-drinking exceed those proceeding from ardent spirits: first, because the habit is constant and without paroxysmal interruptions, which admit of some recuperation; secondly, because beer-drinking is practiced by both sexes more generally than spirit-drinking; and thirdly, because the animalizing tendency of the habit is more uniformly developed, thus authorizing the presumption that the vicious results are more generally transmitted.

It will be inferred from these remarks that we take no comfort from the substitution of malt drinks for spirituous liquors. On the contrary, it is a cause of apprehension and alarm that just as public opinion, professional and unprofessional, is uniting all over the civilized world in the condemnation of the common use of ardent spirits, the portals of danger and death are opening wide in another direction.—*Pacific Med. and Surg. Journal.*

INFANT ASSURANCE.—In a recent report of Dr. Settle, Medical Officer of Health for Barrow-in-Furness, England, he attributes many of the deaths of infants in his district to culpable neglect and even criminal starvation, and adds: "Burial societies, I am afraid, have something to answer for in respect to infant mortality; for if a child be in several friendly societies, dissolute parents can see a way to gratify their love for drink, and a premium is offered for the child's death."

SURFACE THERMOMETRY.—Dr. Wm. Squire, M.R.C.P., in the Practitioner of November, publishes an interesting record of his observations with the surface thermometer. By means of this instrument he has been enabled to locate the seat of inflammation in pneumonia, phthisis, and pleurisy. Dr. Squire says:

"I estimate the normal temperature of the head, taken at the temples, at from 94° to 96°; of the neck, 96°; that of the chest, abdomen, and back, 94.5° to 96.5°; that of the extremities, 90° to 94°; the fore-arm and leg sometimes being from one to two degrees lower than the arm and thigh; but, the leg may reach 94° and the fore-arm 95° while covered in bed; the foot may be 90° while the hand is 96°; perhaps 95° may be considered a normal surface-temperature. The general temperature in health is 98.6°, taken under the tongue; it was so taken in all the preceding cases."

"My conclusion as to the value of surface thermometry in phthisis is, that though the surface temperature is not always raised in the neighborhood of tubercular disease, and that though considerable local elevation of temperature on the chest may be found without such disease existing in the lungs, yet it must be considered an aid of some value both to the diagnosis and treatment of phthisis. The indications afforded by the general temperature and by the other physical signs are far before this one in importance, but it is one that should not be neglected or passed over."

FOOD AND HEALTH.—Sanitary Journal: It will astonish most men to find out just how little food, compared with their usual habits, is actually necessary to sustain life at its maximum. Dr. T. L. Nichols, of Malvern, England, has recently been lecturing in London, and giving the results of experiments upon himself, with a view to determining this important question. During the first week he lived on bread and its equivalents (wheat meal, oat meal, rice, etc.), milk, fruit, and vegetables; he ate no flesh meat. His habits of life were regular, his excess being that of overwork. The total weight of ingesta (solid) for the first week was three pounds nine ounces, being a daily average of eight and three fourths ounces. The second week he ate "food of health," milk and fruit; total weight, four pounds four and a half ounces, a daily average of nine and three fourths ounces. He reports that at the end of the second week nothing could be better physiologically than the effect of the diet upon him. His digestion was perfect, and the actions of all the various organs were as good as it was possible to desire. During the third week he discontinued milk as unnecessary, and took of solid food three pounds two ounces, an average of seven and a seventh ounces per day. The fourth week his food, being similar, weighed three pounds six ounces, a daily average of eight ounces. He now added soups, puddings, eggs, etc., and the fifth week his food weighed three pounds twelve and a half ounces. For the sixth week it weighed three pounds fifteen ounces, or nine ounces per day. He had taken this diet without stimulants, and had experienced constant increase of health and strength and power to work, and his weight had remained at about one hundred and seventy pounds. He concluded his lecture with the following sentiment: "The diet question is at the root of disease. Pure blood can only be made of pure food in proper quantity. Proper attention to diet would reduce the rate of infant mortality and remove many diseases. If the drink of a nation were pure and free from stimulating qualities, and the food were also pure, the result would be pure health."

DEATHS BY DROWNING.—A parliamentary return, which has been recently issued at the instance of Mr. Birley, will prove of the greatest assistance to those who have been persistent in advocating the teaching of swimming in both boys and girls' schools. Apart from its importance as one of the best methods of exercising the limbs and insuring personal cleanliness, we can now form

some estimate of its probable value in saving life. The return gives the number of deaths by drowning in the inland waters of England and Wales during the year 1877, distinguishing between men, women, and children, and also whether the deaths occurred in rivers or running water, in canals, or in lakes or ponds. The total number of inquests was 2,662, of whom 522, or rather less than one fifth, were held on females; 805 were on children — *i. e.* under twelve years of age; 1,511 on males above that age; and 346 were on females. This analysis at once shows that if swimming were thoroughly taught as a necessary branch of physical education in schools, a large proportion of 1,800 lives might have been saved in one year only, for most people who are drowned in inland waters would save themselves or be rescued if they only knew how to swim, or even to float for some little time till help could be obtained. We may safely affirm that there is no inland water in the counties of Middlesex, Kent, and Surrey wherein a swimmer (of average skill and strength) should be drowned unless under very exceptional circumstances, and yet we find that 156 males in Middlesex, 95 in Surrey, and 73 in Kent were found drowned during the past year. Swimming associations around our sea-coasts, baths in some of our inland towns and larger schools, and perhaps sensational feats in swimming, have done much to popularize this valuable art; but it is at once evident from this return that greater facilities for acquiring a knowledge of it are still urgently needed.—*London Lancet.*

Dr. Hammond, a reputed expert on insanity, an extensive writer on the subject, at one time surgeon-general of the United States army, and now associate of the Journal of Nervous and Mental Diseases, said recently, in a discussion which took place on this subject at a meeting of the Medico-legal Society of New York, "that he is in favor of punishing insane people just as he would a tiger who went about destroying people. If a lunatic had a homicidal mania, he would hang him." He would not only hang *any* and *all* insane people who killed any one, but he would hang them if they had a mania to kill, even were the deed not performed. This would be an effectual way to make vacancies in our asylums, and would remove perplexing problems from our courts of law to the scaffold and the grave. I am sure such a brutal idea will never prevail where humanity exists. One of the theories of the transmigration of souls was that some one died when each mortal was born, and the soul of the dead one was immediately translated to the new-born child. I am afraid no one died when Dr. Hammond was born. I take this charitable view of the author of such a horrible proposal.—*Dr. Daniel Clark, in Canada Lancet.*

Human Fecundity.—A woman residing at Schlossberg, Germany, has brought eight children into the world in less than three years. Two years ago she had twins, last year she had triplets, and on October 30th she was delivered of three fairly strong and healthy boys. Another woman, at Offenbach, was delivered, on October 24th, of four children—three boys and a girl; but the report before us does not say whether any of them survived.

Thunder and Milk.—The Italia Agricola, writing upon the effects of thunderstorms on milk, states that it is a generally accepted belief that it is the lightning and electrical phenomena that accompany a thunder-storm which cause the spontaneous coagulation of milk. Dr. Malhoern wished to test the idea, and for the purpose he filled a cylinder with fresh skimmed milk, introduced into the same one hundred cubic cent. of pure oxygen, and then allowed the electrical sparks to pass into the apparatus for the space of ten minutes by means of the Ruhmkorff machine. The milk quickly coagulated, clearly proving that an acid reaction had taken place, and after twenty minutes a firm cheese was produced.

LIVE WORMS IN THE AUDITORY CANAL—REMOVAL.—A. J. Pedlar, M. D., reports, in the Pacifc Med. and Surg. Journal: I was consulted by John R., who complained of excessive pain and violent noise in his left ear. He said, "A fly entered my ear five days ago, but I got it out in *two minutes*." Ten hours after removing the insect, pain set in and rapidly increased. The old-time remedies of filling the ear with warm water, oil, etc. failed to remove any thing, and gave no relief. Inserting a speculum, and illuminating the ear with a Troeltsch mirror, a number of moving worms, or maggots, were seen imbedded in the canal, close to the drum. Careful use of the syringe for one hour resulted in removing one maggot about three lines in length. The ear was then filled with carbolized almond oil containing morphia sulph. A cotton plug being inserted, the patient went to bed. During the night four more maggots were dislodged, and the following morning I removed the sixth and last one by aid of the syringe. This last one was full six lines in length. Three came away dead, the effect of the carbolized oil. These wriggling usurpers were evidently hatched from eggs deposited by the "fly" during its brief sojourn in the ear.

CHEMISTRY OF THE COW-TREE.—Nearly fifty years ago M. Boussingault, the eminent French chemist, made some interesting observations on the juice of the *Galactodendron*, commonly known as the "cow-tree." Some specimens of the plant now on exhibition in the Champ de Mars have enabled him to prosecute his study of this vegetable milk. The cow-tree grows to a height of fifteen to twenty-eight meters; its leaves are oblong and alternate, and terminate in coriaceous points. The Indians "milk" the tree by making incisions in the trunk. The nutritive qualities of the milk are undoubted. M. Boussingault took it for several months with coffee or chocolate. It is much more consistent than cow's milk, and has a weakly acid reaction. In air it soon coagulates into a kind of cheese. This contains a complex fatty matter, melting at 50° C. very similar to beeswax, and of which the author made excellent candles. There is also present a nitrogenized matter similar to albumen or vegetable fibrine. The remainder consists of saccharine substances, salts of potash, lime, magnesia, phosphates, and water. It differs from cow's milk in its quantitative composition, and is like cream; the constituents being principally butter, thirty-five; sugar, three; phosphates, casein, and albumen, four; water, fifty-eight. M. Boussingault thinks the cow-tree might be usefully naturalized in Algeria; but adds that it would be less valuable on account of the milk than on that of the wax, which could be obtained from it in abundance.—*Boston Jour. of Chemistry.*

AN ounce minnie-ball in the brain fifteen years, successfully removed, is reported by O. M. Doyle, M. D., in the Southern Medical Record. The patient was shot in the center of the forehead at the battle of Murfreesboro.

SKULLS.—At the recent meeting of the Anthropological Congress in Paris, Dr. Lebon gave the results of his experimental researches upon the relation of the volume of the cranium to intelligence. Dr. L. has studied many skulls of many races, and is satisfied that the degree of intelligence is proportionate to the capacity of the cranium. The best endowed races have the greatest average cranial volume, and in any race the biggest heads have "the most brains," in a figurative as well as in a literal sense. There are individual exceptions, but the general law is none the less true. Among his measurememts of heads, Dr. L. has made more than twelve hundred from living subjects in Paris, and by a series of curves he shows their relative development. He arranges them in five classes, which stand as follows according to size, the biggest being put at the head: (1) literary and scientific men; (2) the Parisian *bourgeoisie*, or middle class; (3) the old nobility; (4) domestic servants; (5) peasants.—*Boston Jour. of Chem.*

THE DETERMINATION OF SEX IN UTERO.—Dr. Upton, of Michigan, in New York Medical Record: I am led in this connection to air a theory of the generation of the sexes which, if correct, will throw more light on this mysterious subject of embryology, and will explain the law discovered by M. Thury, Professor in the Academy of Geneva, and referred to in Dr. Mudd's communication.

My experience extends over nearly eight years of obstetric practice, and in every case where I can obtain sufficient and accurate data upon which to base my calculations, I am able to predict the sex previous to delivery. The law is substantially thus, viz: Conception resulting from intercourse *subsequent* to the menstrual flow will result in female offspring; while conception from intercourse in the *latter half* of the menstrual period, or *previous* to the menstrual flow, will result in male offspring.

Observations and inquiries carefully made with a view to determine the correctness of this law have established its truth, in my own mind, beyond question.

A FAULT OF MODERN JOURNALISM.—In looking over the pages of the medical periodicals which pour in upon us as exchanges, in a continuous stream, from almost all parts of the world, we are struck with the great amount of space occupied by the novel, the rare, the anomalous, the abstruse, and the speculative, in proportion to the practical, or that which is available in the daily experience of the mass of practitioners. It is the tendency of the age to attach a fictitious value to new things. The sensational character of the newspaper press infects medical journalism. Writers turn away from the dull topics of every-day practice, and seek notoriety by identifying themselves with some new remedy, new treatment, new instrument, or by seeking and exploring new fields of research, into which not one reader in a hundred can follow or cares to follow. All this is well enough in its place, but as nineteen twentieths of every-day practice concerns common diseases, the question arises whether it is proper that nineteen twentieths of the literary labor of medical men should be devoted to uncommon diseases and extraordinary and exceptional phenomena.—*Pacific Med. and Surg. Journal.*

THE AMERICAN PUBLIC HEALTH ASSOCIATION.—Upon the question of the origin of yellow fever, the members of the association held widely different views. A majority accepted the report of the commission in favor of the germ theory and exotic origin. A respectable number of careful observers espoused warmly the theory of an indigenous origin, and opposed measures looking to an establishment of a national quarantine act. A minority opposing extreme measures adopted a medium ground—favored the observance of strict local sanitary laws and local quarantine. It was evident, from the diverse sentiment of the association, that no satisfactory conclusions have yet been reached, and that from a practical standpoint the origin of yellow fever is involved in as much doubt to-day as before the commission began its work. No facts have been brought forward which were not in the possession of the profession previous to the report. Few converts have been made upon either side of the question.—*Maryland Med. Journal.*

PRESSINERVOSCOPY.—This is the formidable name devised by Dr. August Pinel, of Paris, for a method of diagnosis of diseases of the chest and abdomen by compression of the pneumogastric and sympathetic nerves. By compression with the fingers on any portion of these nerves, and the peculiar sensations thereby produced, Dr. Pinel professes to be able to define the seat and nature of the malady from which a patient may be suffering. M. Burggraeve has declared that as a means of diagnosis it is even superior to stethoscopy or pleximetry.

AN advocate of cremation asks why, if we have to earn our living, we should not urn our dead.

Selections.

Transfusion.—Dr. William Pepper, in the Philadelphia Medical Times:

The following points may be regarded as settled in regard to blood-transfusion:

That, excepting when direct transfusion can be dexterously performed, carefully defibrinated blood should be employed.

That the amount injected at any one time should not exceed five to seven fluid ounces, and that it should be injected very slowly.

That severe and even very dangerous symptoms (of disturbed nervous and vascular action) are liable to occur during or soon after the operation.

That albuminuria may follow the operation.

That the transfusion of blood is capable of stimulating powerfully the circulation and nutrition for a short time, and may thus be used to save life in cases of exhaustion from profuse hemorrhage.

That it may also be employed legitimately for temporary relief in cases where extreme anæmia and exhaustion have resulted from a serious but curable functional disease, in order to gain time for curative measures. As illustrations, I may cite the instances of intense dyspepsia, gastric ulcer, chronic diarrhea or dysentery, hemorrhage in typhoid fever.

That in cases of incurable disease, such as advanced pulmonary phthisis, cancer, or anœmatosis, transfusion of blood exerts no curative effect, and the attendant risk is too great to justify its performance.

In comparing the effects of transfusion of milk with those of transfusion of blood, it may be concluded from the experiences already recorded:

That the milk must be just drawn from the cow, and be kept at a temperature of about 100° F.

That the quantity used should not exceed six fluid ounces, since it has been seen that even much smaller quantities than this may produce severe symptoms.

That these symptoms appear to be quite as severe and of the same character after transfusion of milk as after that of blood, although the danger of embolism is excluded to a great extent.

That albuminuria may follow the operation, though this has been actually shown to occur only in a case where slight disease of the kidneys existed.

That transfusion of milk undoubtedly exerts a powerful and instantaneous stimulating effect upon the circulation and on nutrition, and may be used therefore instead of blood in cases of profuse hemorrhage, etc.

That it is still doubtful whether, in cases of intense anœmia connected with serious but curable disease, transfusion of milk, although doubtless of much service, produces as lasting effect as is obtained when blood is used.

That the severe symptoms following the operation and the possible dangers attending it render it improper to perform it in such cases until all other remedies have failed.

That in cases of serious organic anœmia the operation may hasten a fatal result; and that consequently, as its beneficial action, even if the operation is most successful, can only secure a temporary improvement, its performance is not justifiable in such conditions.

Operation for Phymosis by the Elastic Ligature.—At a recent meeting of the Société de Chirurgie in Paris, Dr. Hue, of Rouen, read a paper on a modification introduced by himself in the operation for phymosis. Instead of dividing the prepuce with a cutting instrument, he merely passes a needle through its dorsal surface close to the base of the gland, and ties the portion of skin in front of the puncture with an elastic ligature. The ligature cuts its way through in three or four days. The process is not painful, and the patients can, if necessary, continue their usual avocations. Dr. Hue has employed this process with success in eighty cases, which comprised both old men and children. He asserts that the result is very satisfactory from an æsthetic point of view; the gland remains half uncovered and retains its natural decoration unmarred by a scar.—*London Doctor.*

Treatment of Heat Apoplexy with Ergot.—Dr. Dedrickson has successfully treated several cases of sun-stroke by means of ergot. The treatment consisted in the application of ice to the nape of the neck, and the administration of fifteen grains of liquid extract of ergot, and three minims of tincture of aconite every hour. The ordinary remedy of the East in cases of this kind is twenty grains of quinine. This was ineffectual in one of the cases in which the ergot proved beneficial. If the coma has advanced so far that the patient can not be made to swallow, Dr. Dedrickson suggests that ergotine may be injected subcutaneously. The aconite is to be omitted if the action of the heart is weak.—*Dublin Journal of Med. Science.*

Wyeth's Diaylsed Iron (Ferrum Dialysatum). It is well known that this valuable remedy is a mixture in various proportions of ferric hydrate and ferric chloride, and that the less it contains of the latter the better it is. Wyeth's preparation is excellent. We find on analysis that the proportion of hydrate to chloride is so high that the latter can hardly produce any effect. It is almost free from styptic taste, and appears to be permanent. If for no other purpose, dialysed iron should always be kept as an antidote to arsenical poisoning.—*London Lancet.*